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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,652	11/15/2001	Yasutaka Nagaoka	Q67305	7453

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EXAMINER
MCCALL, ERIC SCOTT

ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 12/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/987,652	Applicant(s) NAGAOKA ET AL.	
	Examiner Eric S. McCall	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sh et with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

STRUCTURE FOR MOUNTING STEERING ANGLE SENSOR FOR STEERING

FIRST OFFICE ACTION

DRAWINGS

The drawings are objected to because figures 10 and 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

CLAIMS

35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by the Applicant's own admitted prior art.

With respect to claim 1, the Applicant has stated that figures 10 and 11 of the Applicant's own disclosure constitute prior art for a structure for mounting a steering angle sensor for detecting a steering angle of a steering wheel, wherein figures 10 and 11 do show,

a fitting recessed portion (106) is provided in a side surface of a column (104) to which a steering-signal transmitting unit (103), a turn signal lever (101), and a wiper control switch lever (102) are attached, and the steering angle sensor (105) is inserted and fitted into the fitting recessed portion from the side surface of the column.

The above interpretation is made because the Applicant has not disclosed in their claim what constitutes a "side" surface of the steering column. Therefore, in the Applicant's Fig. 10, the interpretation is made that the steering angle sensor (105) is inserted into a side surface of the

steering column because inserting the sensor from below the column is inserting the sensor into the bottom-"side" of the steering column wherein the bottomside of the column is nonetheless a side surface.

With respect to claim 4, the Applicant's prior art figures 10 and 11 of the Applicant's own disclosure can be interpreted as constituting prior art for a steering angle sensor mounting structure as claimed in claim 4, comprising:

a steering angle sensor (105) for detecting a steering angle of a steering wheel;

a column (104) to which a steering-signal transmitting unit (103) is attached, the steering-signal transmitting unit including a rotating member rotating about an axis (such as an inherent steering-wheel); and

a fitting recessed portion (the side opening in mounting portion 106 as shown in fig. 10) provided in a surface of the column (104) through which the axis does not pass,

wherein the steering angle sensor (105) is inserted and fitted into the fitting recessed portion (106), so that the steering angle sensor detects the steering angle through the rotating member.

The above interpretation is made because the "fitting recessed portion which is provided in a surface of the column through which the steering axis does not pass", as claimed by the Applicant, reads on the side opening of the mounting portion (106) of the prior art as disclosed in said fig. 10. Said side opening (not the entire underside of the column), as can be seen in fig. 10,

clearly would not have the steering axis passing therethrough because it is on the side of the column (104). Therefore, the fitting recessed portion, of the prior art, is provided "in a surface of the column" through which the axis does not pass as claimed by the Applicant. However, that is not to say that the fitting recess portion of the prior art is not provided in other areas of the column, but it is provided in an area where the steering axis does not pass. That area being the side opening.

With respect to claim 7, said prior art clearly teaches the subject matter thereof.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoshino et al. (4,683,375).

With respect to claim 1, Hoshino et al. teach a structure for mounting a steering angle sensor of a steering wheel (fig. 3), wherein

a fitting recessed portion (area which accepts sensor 16) is provided in a side surface of a column (20) to which a steering-signal transmitting unit (12/14; ie. the steering mechanism itself), an inherent turn signal lever, and an inherent wiper control switch lever are attached (for as surely the Applicant can appreciate, the mounted of a turn signal level and a wiper control switch lever on the steering column is very well known and very common in the art), and the

steering angle sensor (16) is inserted and fitted into the fitting recessed portion from the side surface of the column (fig. 3).

With respect to claim 2, the prior art teaches a rotating disk (14) linked to and integrally rotating with a rotating member (12) of the steering-signal transmitting unit being provided on the column (20), and a subject detection portion (50) formed in the rotating disk is inserted in a slit formed in the housing (fig. 3) of the steering angle sensor.

With respect to claim 3, the prior art teaches a rotating disk (14) linked to and integrally rotating with a rotating member (12) of the steering-signal transmitting unit being provided on the column (20), and (turning to fig. 5) a sensor portion (160/162) projecting from a housing of the steering angle sensor (16) being disposed on one of an upper side and a lower side of a subject detection portion (50) formed in the rotating disk (14).

With respect to claim 4, the prior art teaches a steering angle sensor mounting structure, comprising:

a steering angle sensor (16) for detecting a steering angle of a steering wheel;

a column (20) to which a steering-signal transmitting unit (12/14; ie. the steering mechanism itself) is attached, the steering-signal transmitting unit including a rotating member (14) rotating about an axis; and

a fitting recessed portion (area which receives the sensor 16) provided in a surface of the column (20) through which the axis does not pass (fig. 3),

wherein the steering angle sensor (16) is inserted and fitted into the fitting recessed portion (fig. 3), so that the steering angle sensor detects the steering angle through the rotating member (14).

With respect to claim 5, the prior art teaches the structure of:

the rotating member being provided with a rotating disk (14);

the steering angle sensor (16) being provided with a slit (fig. 3); and

the rotating disk (14) being inserted into the slit when the steering angle sensor (16) is fitted to the column (20).

With respect to claim 6, the prior art teaches the structure of:

the rotating member being provided with a rotating disk (14);

the steering angle sensor (16) being provided with a sensor portion (160/162) projecting therefrom (fig. 5); and

the sensor portion being disposed on one of an upper side and a lower side of the rotating disk (fig. 5).

With respect to claim 7, the prior art is deemed as inherently teaching a turn signal lever and a wiper control switch lever being attached to surfaces of the column through which the axis

does not pass because as surely the Applicant can appreciate, the attachment of a turn signal lever and a wiper control switch lever to a steering column is very well known and commonly performed in the art.

RELEVANT ART

The Applicant's attention is directed to the enclosed "PTO-892" form for the prior art made of record and not relied upon but considered pertinent to the Applicant's disclosure.

CONCLUSION

Any inquiry concerning this communication should be directed to Eric S. McCall at telephone number (703) 308-6968.

Eric S. McCall
Primary Examiner
Art Unit 2855
Dec. 20, 2002